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POSITIVE ALTERNATIVE RADIO INC.
P. O. BOX 889
Blacksburg, Virginia 24063

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

February 5, 1993

Ms. Donna R. Searcy
Secretary
Federal Communications Commission

FEB 10 3 01
AUG 10 3 01

ORIGINAL

PETER V. GURECKIS & ASSOCIATES

ENGINEERING EXHIBIT EE-3

POSITIVE ALTERNATIVE RADIO, INC.
ASHEBORO, NORTH CAROLINA

FEBRUARY, 1993

ENGINEERING AMENDMENT IN SUPPORT OF AN APPLICATION
FOR A NON-COMMERCIAL FM BROADCAST STATION

PETER V. GURECKIS & ASSOCIATES

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA


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PETER V. GURECKIS & ASSOCIATES

I, PETER V. GURECKIS, certify that I am a Consulting Radio Engineer, that my qualifications are known to the Federal Communications Commission and that my firm has been retained by POSITIVE ALTERNATIVE RADIO, INC., Asheboro, North Carolina, to prepare this statement.

I further state that the calculations and exhibits contained herein were prepared by me personally or under my direction and that all facts contained therein are true of my knowledge except where stated to be on information or belief, and as to those facts, I believe them to be true.



PETER V. GURECKIS
PETER V. GURECKIS & ASSOCIATES

DATE: FEBRUARY 1, 1993

PETER V. GURECKIS & ASSOCIATES

ENGINEERING STATEMENT

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

This Engineering Amendment has been prepared on behalf of POSITIVE ALTERNATIVE RADIO, INC., who now has on file an application requesting a non-commercial FM broadcast station to operate on Channel 207A with an effective radiated power of 2.5 KW at Asheboro, North Carolina (File No. BPED-911119MC).

The purpose of this amendment is to specify a new antenna location. The new antenna is located at the antenna site of Station WZOO, licensed to

PETER V. GURECKIS & ASSOCIATES

**ENGINEERING STATEMENT
POSITIVE ALTERNATIVE RADIO, INC. - ASHEBORO, NORTH CAROLINA
CONTINUED - PAGE 2**

Complete protection is provided to all stations as shown on Figures 5 and 6 in this amendment. Also, the proposed 67.4 dbu contour is well outside of TV station WVVA's 47 dbu contour.

Attached are Figures 1 through 8 and Section V-B of Form 340.

Section V-B - FM BROADCAST ENGINEERING DATA

FOR COMMISSION USE ONLY

File No. _____

ASB Referral Date _____

Referred by _____

Name of Applicant

POSITIVE ALTERNATIVE RADIO, INC.

Call letters (if issued)

Is this application being filed in response to a window? ☐ Yes ☐ No

If Yes, specify closing date: _____

Purpose of Application: (check appropriate boxes)

☒ Construct a new (main) facility

☐ Construct a new auxiliary facility

☐ Modify existing construction permit for main facility

☐ Modify existing construction permit for auxiliary facility

☐ Modify licensed main facility

☐ Modify licensed auxiliary facility

If purpose is to modify, indicate below the nature of change(s) and specify the file number(s) of the authorizations affected.

☐ Antenna supporting-structure height

☐ Effective radiated power

☐ Antenna height above average terrain

☐ Frequency

☐ Antenna location

☐ Class

☐ Main Studio location

☐ Other (Summarize briefly)

File Number(s) AMENDMENT TO APPLICATION

1. Allocation:

Channel No.	Principal community to be served:		
	City	County	State
207	ASHEBORO	RANDOLPH	NC

Class (check only one box below)

☒ A ☐ B1 ☐ B ☐ C3

☐ C2 ☐ C1 ☐ C ☐ D

2. Exact location of antenna.

(a) Specify address, city, county and state. If no address, specify distance and bearing relative to the nearest town or landmark.

2.1 MILES N.W. OF BALFOUR, NORTH CAROLINA - SAME SITE AS FOR STATION WZOO (AM).

(b) Geographical coordinates (to nearest second). If mounted on element of an AM array, specify coordinates of center of array.

Otherwise, specify tower location. Specify South Latitude or East Longitude where applicable; otherwise, North Latitude or West Longitude will be presumed.

Latitude	°	'	"	Longitude	°	'	"
35		45	50	79		50	04

3. Is the supporting structure the same as that of another station(s) or proposed in another pending application(s)?

☒ Yes ☐ No

If Yes, give call letter(s) or file number(s) or both.

WZOO (AM)

If proposal involves a change in height of an existing structure, specify existing height above ground level including antenna, all other appurtenances, and lighting, if any.

N/A

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 2)

4. Does the application propose to correct previous site coordinates?

☐ Yes ☒ No

If Yes, list old coordinates.

Latitude	0	'	"	Longitude	0	'	"
----------	---	---	---	-----------	---	---	---

5. Has the FAA been notified of the proposed construction?

☐ Yes ☒ NoIf Yes, give date and office where notice was filed and attach as an Exhibit a copy of FAA determination, if available. **EXISTING TOWER OF STATION WZOO (AM).**Exhibit No.
N/A

Date _____ Office where filed _____

6. List all landing areas within 8 km of antenna site. Specify distance and bearing from structure to nearest point of the nearest runway.

	Landing Area	Distance (km)	Bearing (degrees True)
(a)	N/A		
(b)			

7. (a) Elevation: *(to the nearest meter)*(1) of site above mean sea level; 195 meters(2) of the top of supporting structure above ground (including antenna, all other appurtenances, and lighting, if any); and 106 meters(3) of the top of supporting structure above mean sea level $[(aX1) + (aX2)]$ 301 meters(b) Height of radiation center: *(to the nearest meter)* H = Horizontal; V = Vertical(1) above ground 99 meters (H)99 meters (V)(2) above mean sea level $[(aX1) + (bX1)]$ 294 meters (H)294 meters (V)(3) above average terrain 91 meters (H)91 meters (V)

8. Attach as an Exhibit sketch(es) of the supporting structure, labelling all elevations required in Question 7 above, except item 7(bX3). If mounted on an AM directional-array element, specify heights and orientations of all array towers, as well as location of FM radiator.

Exhibit No.
EE-3

9. Effective Radiated Power:

(a) ERP in the horizontal plane 2.5 kw (H*) 2.5 kw (V*)

(b) Is beam tilt proposed?

☐ Yes ☒ No

If Yes, specify maximum ERP in the plane of the tilted beam, and attach as an Exhibit a vertical elevational plot of radiated field.

Exhibit No.
N/A

_____ kw (H*) _____ kw (V*)

*Polarization

10. Is a directional antenna proposed?

☒ Yes ☐ No

If Yes, attach as an Exhibit a statement with all data specified in 47 C.F.R. Section 73.316, including plot(s) and tabulations of horizontally and vertically polarized radiated components in terms of relative field.

Exhibit No.
EE

11. Will the main studio be located within the 70 dBu or 3.16 mV/m contour?

☒ Yes ☐ No

If No, attach as an Exhibit justification pursuant to 47 C.F.R. Section 73.1125.

Exhibit No.
N/A

12. Are there: (a) within 60 meters of the proposed antenna, any proposed or authorized FM or TV transmitters, or any nonbroadcast *except citizens band or amateur* radio stations; or (b) within the blanketing contour, any established commercial or government receiving stations, cable head-end facilities, or populated areas; or (c) within ten (10) kilometers of the proposed antenna, any proposed or authorized FM or TV transmitters which may produce receiver-induced intermodulation interference?

☐ Yes ☒ No

If Yes, attach as an Exhibit a description of any expected, undesired effects of operations and remedial steps to be pursued if necessary, and a statement accepting full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of modulation) to facilities in existence or authorized or to radio receivers in use prior to grant of this application. (See 47 C.F.R. Sections 73.315(b), 73.316(d) and 73.318.)

Exhibit No.
N/A

13. Attach as an Exhibit a 7.5 minute series U.S. Geological Survey topographic quadrangle map that shows clearly, legibly, and accurately, the location of the proposed transmitting antenna. This map must comply with the requirements set forth in Instruction D for Section V. Further, the map must clearly and legibly display the original printed contour lines and data as well as latitude and longitude markings, and must bear a scale of distance in kilometers.

Exhibit No.
EE-3

14. Attach as an Exhibit *(name the source)* a map which shows clearly, legibly, and accurately, and with the original printed latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.
EE-3

(a) the proposed transmitter location, and the radials along with profile graphs have been prepared;

(b) the 1 mV/m predicted contour and, for noncommercial educational applicants applying on a commercial channel, the 3.16 mV/m contour; and

(c) the legal boundaries of the principal community to be served.

15. Specify area in square kilometers (1 sq. mi. = 2.59 sq. km.) and population (latest census) within the predicted 1 mV/m contour. **PRESENT 1208 KM OR 466 SQ. MILES.**

Area 931 sq. km.

Population 62,366 (1990 Census)

16. Attach as an Exhibit a map *(Sectional Aeronautical charts where obtainable)* showing the present and proposed 1 mV/m (60 dbu) contours.

Exhibit No.
N/A

Enter the following from Exhibit above:

Gain Area 14 sq. mi.

Loss Area 109 sq. mi.

Percent change (gain area plus loss area as percentage of present area) 26.4 %.

If 50% or more this constitutes a major change. Indicate in question 2(c), Section I, accordingly.

17. For an application involving an auxiliary facility only, attach as an Exhibit a map (*Sectional Aeronautical Chart or equivalent*) that shows clearly, legibly, and accurately, and with latitude and longitude markings and a scale of distance in kilometers:

Exhibit No.
N/A

(a) the proposed auxiliary 1 mV/m contour; and

(b) the 1 mV/m contour of the licensed main facility for which the applied-for facility will be auxiliary. Also specify the file number of the license. See 47 C.F.R. Section 73.1675. (File No.: _____)

18. Terrain and coverage data (*to be calculated in accordance with 47 C.F.R. Section 73.313*).

Source of terrain data: (*check only one box below*)

☒ Linearly interpolated 30-second database

☐ 7.5 minute topographic map

(Source: NGDC)

☐ Other (*briefly summarize*)

Radial bearing (degrees True)	Height of radiation center above average elevation of radial from 3 to 16 km (meters)	Predicted Distances to the 1 mV/m contour (kilometers)
0	80	10.13
45	75	10.00
90	106	12.05
135	86	17.03
180	52	16.64
225	138	26.60
270	104	22.94
315	89	16.12

Allocation Studies

(*See Subpart C of 47 C.F.R. Part 73*)

19. Is the proposed antenna location within 320 kilometers (199 miles) of the common border between the United States and Mexico?

☐ Yes ☒ No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Agreement between the United States of America and the United Mexican States concerning Frequency Modulation Broadcasting in the 88 to 108 MHz band.

Exhibit No.
N/A

20. Is the proposed antenna location within 320 kilometers of the common border between the United States and Canada?

☐ Yes ☒ No

If Yes, attach as an Exhibit a showing of compliance with all provisions of the Working Agreement for Allocation of FM Broadcasting Stations on Channels 201-300 under The Canada-United States FM Agreement of 1947.

Exhibit No.
N/A

21. If the proposed operation is for a channel in the range from channel 201 through 220 (88.1 through 91.9 MHz), or if this proposed operation is for a class D station in the range from Channel 221 through 300 (92.1 through 107.9 MHz), attach as an Exhibit a complete allocation study to establish the lack of prohibited overlap of contours with other U.S. stations. The allocation study should include the following:

Exhibit No.
EE-3

- (a) The normally protected interference-free and the interfering contours for the proposed operation along all azimuths.
- (b) Complete normally protected interference-free contours of all other proposals and existing stations to which objectionable interference would be caused.
- (c) Interfering contours over pertinent arcs of all other proposals and existing stations from which objectionable interference would be received.
- (d) Normally protected and interfering contours over pertinent arcs, of all other proposals and existing stations, which require study to show the absence of objectionable interference.
- (e) Plot of the transmitter location of each station or proposal requiring investigation, with identifying call letters, file numbers and operating or proposed facilities.
- (f) When necessary to show more detail, an additional allocation study will be attached utilizing a map with a larger scale to clearly show interference or absence thereof.
- (g) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire Exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
- (h) The name of the map(s) used in the Exhibit(s).

22. With regard to any stations separated by 53 or 54 channels (10.6 or 10.8 MHz) attach as an Exhibit information required in 1/ *separation requirements involving intermediate frequency (i.f.) interference*.

Exhibit No.
EE-3

23.(a) Is the proposed operation on Channel 218, 219, or 220?

☐ Yes ☒ No

SECTION V-B - FM BROADCAST ENGINEERING DATA (Page 6)

(e) If authorization pursuant to 47 C.F.R. Section 73.215 is requested, attach as an Exhibit a complete engineering study to establish the lack of prohibited overlap of contours involving affected stations. The engineering study must include the following:

Exhibit No.
N/A

- (1) Protected and interfering contours, in all directions (360), for the proposed operation.
- (2) Protected and interfering contours, over pertinent arcs, of all short-spaced assignments, applications and allotments, including a plot showing each transmitter location, with identifying call letters or file numbers, and indication of whether facility is operating or proposed. For vacant allotments, use the reference coordinates as transmitter location.
- (3) When necessary to show more detail, an additional allocation study utilizing a map with a larger scale to clearly show prohibited overlap will not occur.
- (4) A scale of kilometers and properly labeled longitude and latitude lines, shown across the entire exhibit(s). Sufficient lines should be shown so that the location of the sites may be verified.
- (5) The official title(s) of the map(s) used in the exhibit(s).

24. Is the proposed station for a channel in the range from Channel 201 to 220 (88.1 through 91.9 MHz) and the proposed antenna location within the distance to an affected TV Channel 6 station(s) as defined in 47 C.F.R. Section 73.525?

☐ Yes ☒ No

If Yes, attach as an Exhibit either a TV Channel 6 agreement letter dated and signed by both parties or a map and an engineering statement with calculations demonstrating compliance with 47 C.F.R. Section 73.525 for each affected TV Channel 6 station.

Exhibit No.
N/A

25. Is the proposed station for a channel in the range from Channel 221 to 300 (92.1-107.9 MHz)?

☐ Yes ☒ No

If Yes, attach as an Exhibit information required in 1/. (Except for Class D (secondary) proposals.)

Exhibit No.
N/A

26. Environmental Statement (See 47 C.F.R. Section 1.1301 et seq.)

Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact? **EXISTING TOWER**

☐ Yes ☒ No

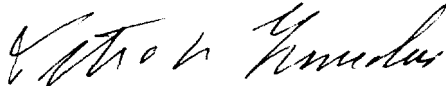
If you answer Yes, submit as an Exhibit an Environmental Assessment required by Section 1.1311.

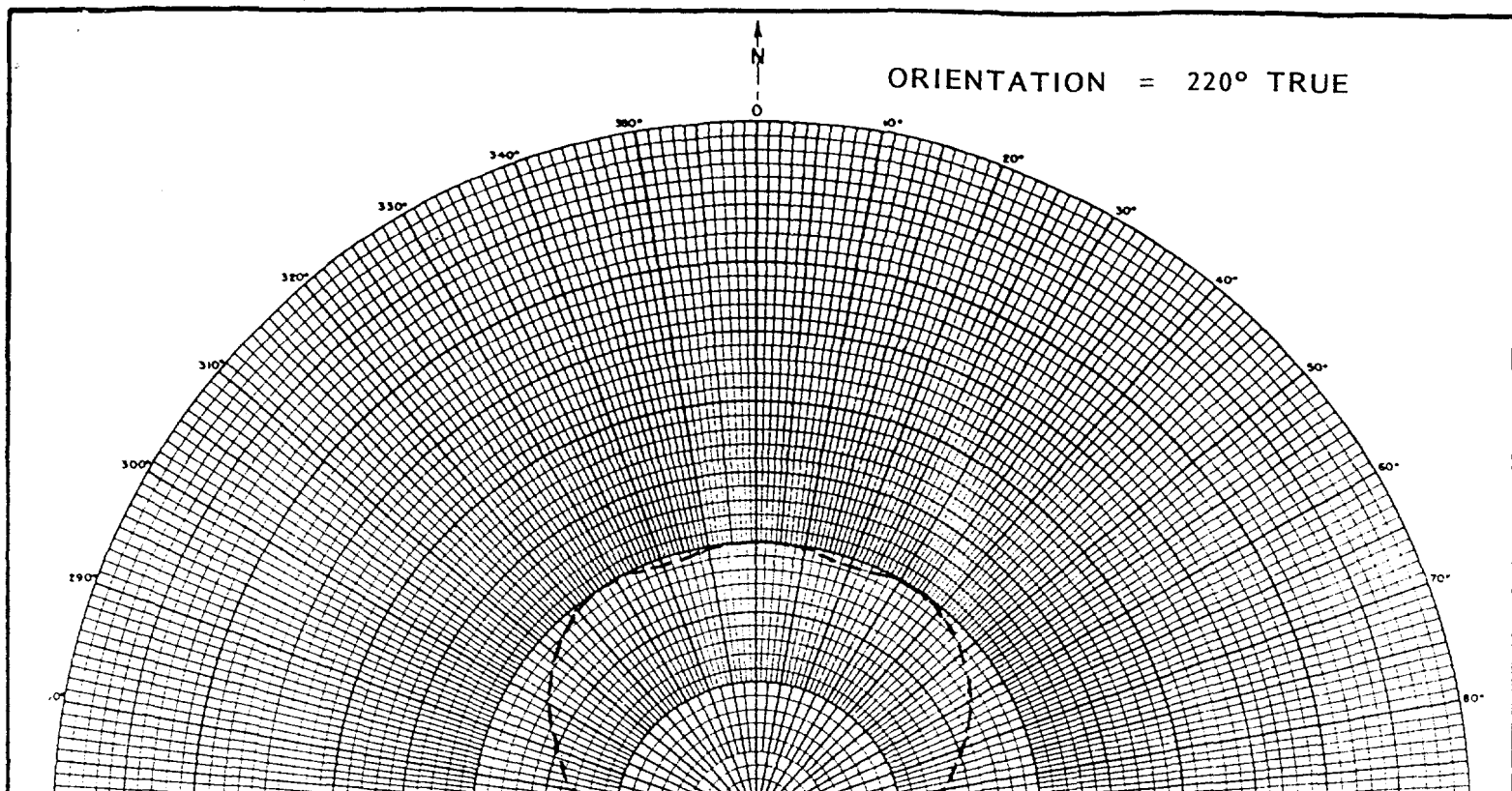
Exhibit No.
N/A

If No, explain briefly why not. **SEE FIGURE 8 FOR RF STATEMENT.**

CERTIFICATION

I certify that I have prepared this Section of this application on behalf of the applicant, and that after such preparation, I have examined the foregoing and found it to be accurate and true to the best of my knowledge and belief.

Name (Typed or Printed)	Relationship to Applicant (e.g., Consulting Engineer)
PETER V. GURECKIS	CONSULTING ENGINEER
Signature	Address (Include ZIP Code)
	10410 WINDSOR VIEW DRIVE POTOMAC, MARYLAND 20854-4024
Date	Telephone No. (Include Area Code)
FEBRUARY 1, 1993	(301) 299-5383



PETER V. GURECKIS & ASSOCIATES

FIGURE 3

POSITIVE ALTERNATIVE RADIO, INC.
ASHEBORO, NORTH CAROLINA

<u>Bearing</u>	<u>Field</u>
0	1.00
10 - 350	.988
20 - 340	.966
30 - 330	1.00
40 - 320	.988
50 - 310	.933
60 - 300	.861
70 - 290	.759
80 - 280	.653
90 - 270	.603
100 - 260	.468
110 - 250	.389
120 - 240	.309
130 - 230	.260
140 - 220	.240
150 - 210	.234
160 - 200	.240
170 - 190	.248
180	.254

<u>Pattern Maxima</u>	<u>Pattern Minima</u>
0°	150°
30°	210°
330°	

ORIENTATION = 220° TRUE

PETER V. GURECKIS & ASSOCIATES

FIGURE 4

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

TABULATION OF DISTANCE TO AMENDED CONTOURS

<u>True</u> <u>Bearing (Deg.)</u>	<u>HAAT</u>	<u>ERP (KW)</u>	<u>DISTANCE IN KM</u>		
			<u>50/50</u> <u>60 dbu</u>	<u>50/10</u> <u>40 dbu</u>	<u>54 dbu</u>
0	80	.144	10.13	34.04	14.12
10	76	.14	9.82	32.78	13.67
20	83	.144	10.31	34.76	14.38
30	84	.15	10.47	35.40	14.62
40	82	.16	10.52	35.56	14.68
50	69	.15	9.54	31.65	13.30
60	85	.144	10.43	35.23	14.56
70	88	.14	10.53	35.65	14.72
80	90	.144	10.72	36.37	15.02
90	106	.17	12.05	41.29	17.79
100	120	.24	13.93	47.24	21.00
110	108	.38	14.88	50.47	22.41
120	98	.55	15.58	52.82	23.35
130	90	.91	17.08	57.13	25.28
140	82	1.07	16.93	57.43	25.05
150	78	1.44	17.85	60.38	26.27
160	74	1.85	18.54	62.98	27.21
170	55	2.18	16.66	60.30	24.62
180	52	2.44	16.64	61.03	24.61
190	61	2.5	18.24	64.29	26.74
200	88	2.33	21.45	69.70	31.76
210	108	2.44	23.96	74.24	36.11
220	132	2.5	26.23	78.59	39.77
230	135	2.44	26.33	78.71	39.91

PETER V. GURECKIS & ASSOCIATES

FIGURE 4

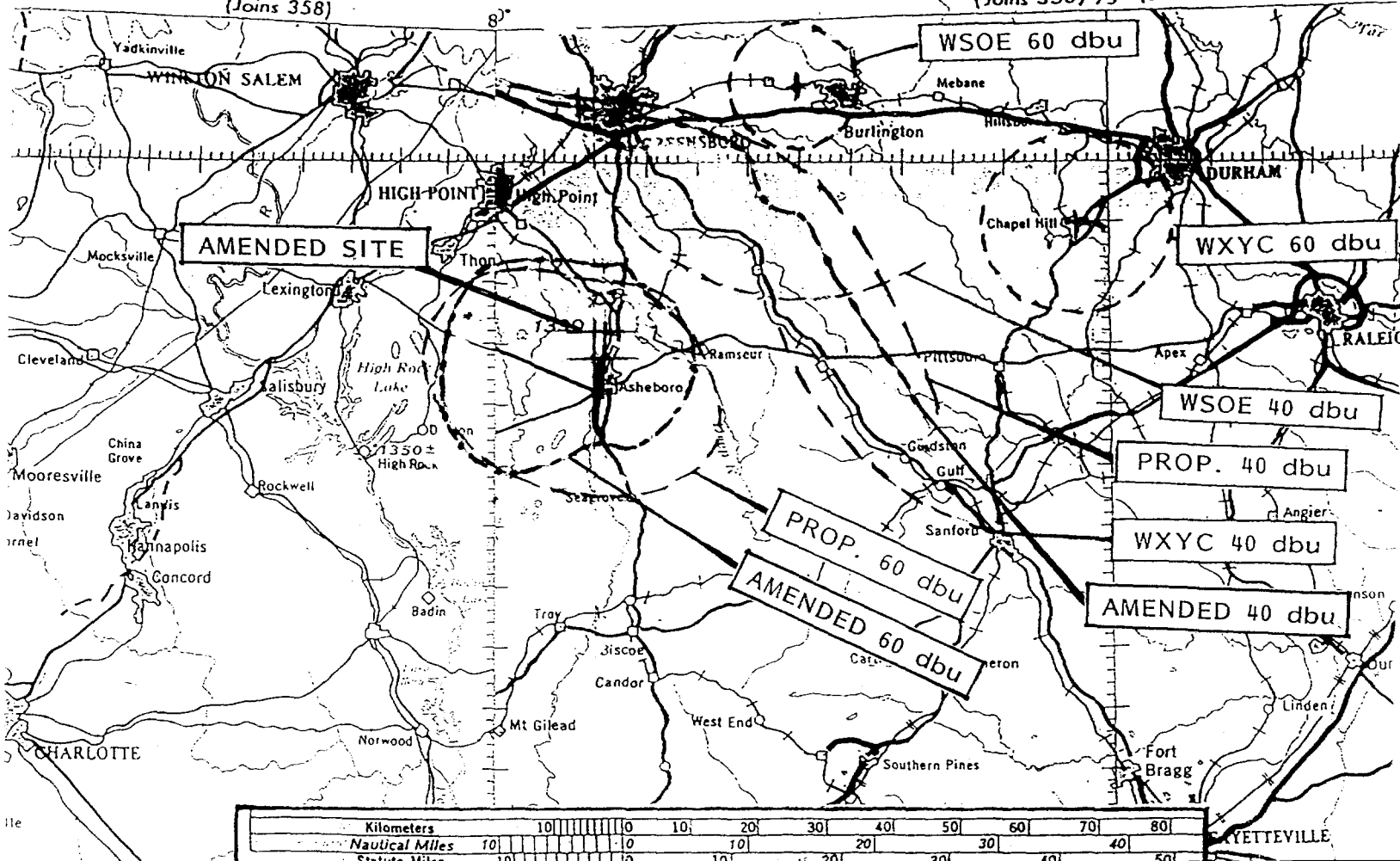
POSITIVE ALTERNATIVE RADIO, INC.
ASHEBORO, NORTH CAROLINA

TABULATION OF DISTANCE TO AMENDED CONTOURS

<u>True</u> <u>Bearing (Deg.)</u>	<u>HAAT</u>	<u>ERP (KW)</u>	<u>DISTANCE IN KM</u>		
			<u>50/50</u> <u>60 dbu</u>	<u>50/10</u> <u>40 dbu</u>	<u>54 dbu</u>
240	122	2.33	25.00	75.95	37.80
250	111	2.50	24.40	72.12	36.84
260	104	2.44	23.54	73.51	35.40
270	104	2.18	22.94	71.84	34.35
280	103	1.85	21.98	69.25	32.66
290	103	1.44	20.70	65.66	30.51
300	101	1.07	19.03	61.26	27.99
310	92	.91	17.30	57.53	25.58
320	85	.55	14.41	50.02	21.61
330	79	.38	12.71	44.03	18.80
340	75	.24	11.13	37.92	15.59
350	78	.17	10.42	35.18	14.55

(Joins 358)

(Joins 358) 79° (Joins 357)



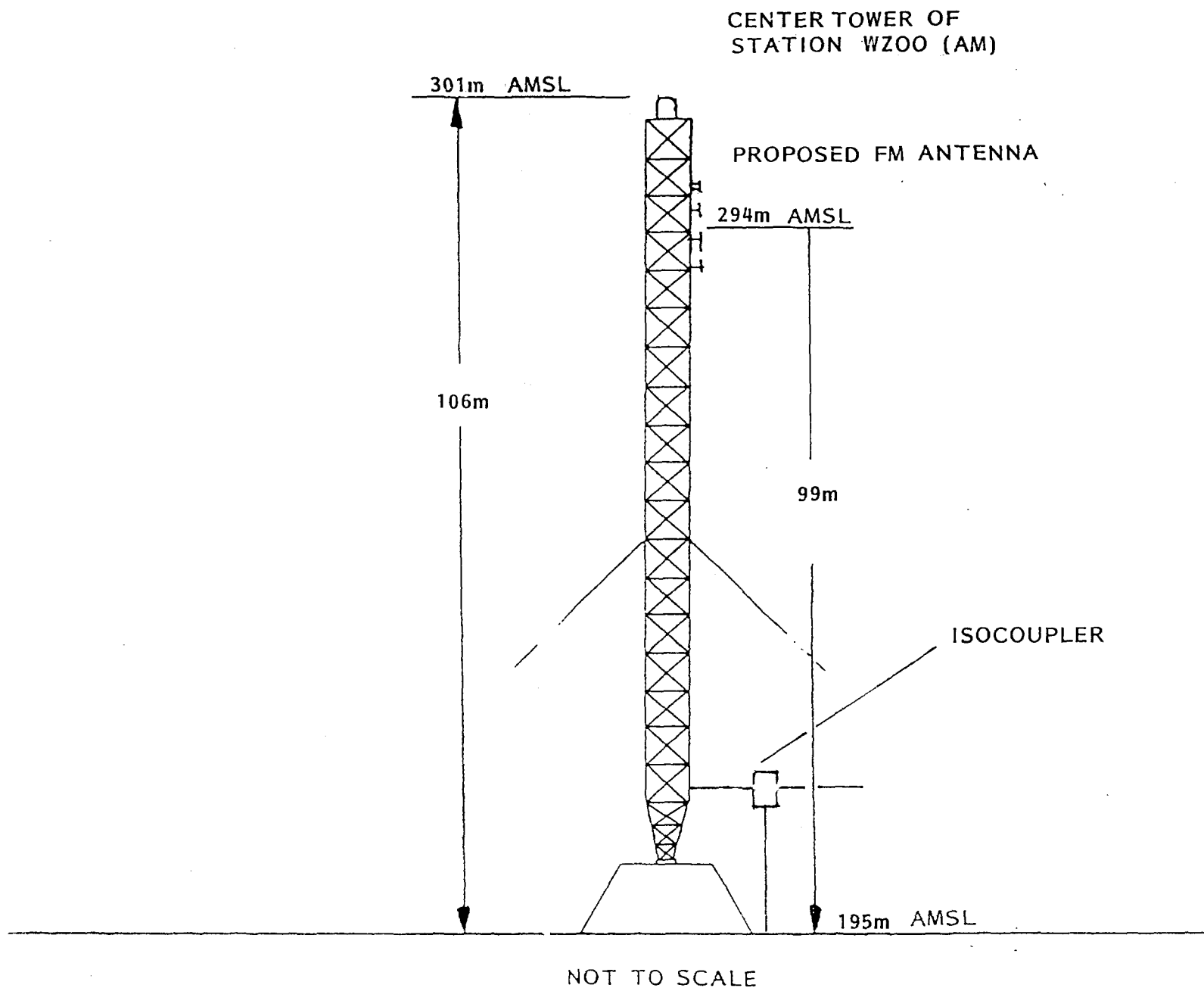


FIGURE 7

TOWER SKETCH

P.A.R., INC.
ASHEBORO, N.C.

Peter V. Gureckis & Assoc.
Consulting Radio Engineers
Potomac, MD

PETER V. GURECKIS & ASSOCIATES

FIGURE 8

POSITIVE ALTERNATIVE RADIO, INC. ASHEBORO, NORTH CAROLINA

RF STATEMENT

The proposed FM operation will comply with the safety requirements of OSHA in that the power density at the base of the tower will be below the maximum permissible exposure level for humans of 100 milliwatts per centimeter squared. The RF radiation value at 2 meters above the base of the tower is 0.1243 percent of the maximum of $1000 \text{ } \mu\text{m}/\text{c}^2$ based upon the following calculations:

Horizontal Power = 2.5
Vertical Power = 2.5
Number of Bays = 4

Pick from the following antenna types:

Dipole (Phelps Dodge) = 1
Jampro (Double V) = 2
ERI (Roto Tiller) = 3
RCA/Dielectric (BFC) = 4
RCA (BFG) = 5
2

Separation between bay elements in wavelengths = 1
Distance from person's head (2 M AG) to Antenna C.O.R. in meters/F = 97
Distance from tower base in meters = 0
Vertical Angle (0 to -90 degrees) = -90
Power Density H = .266
Power Density V = .977

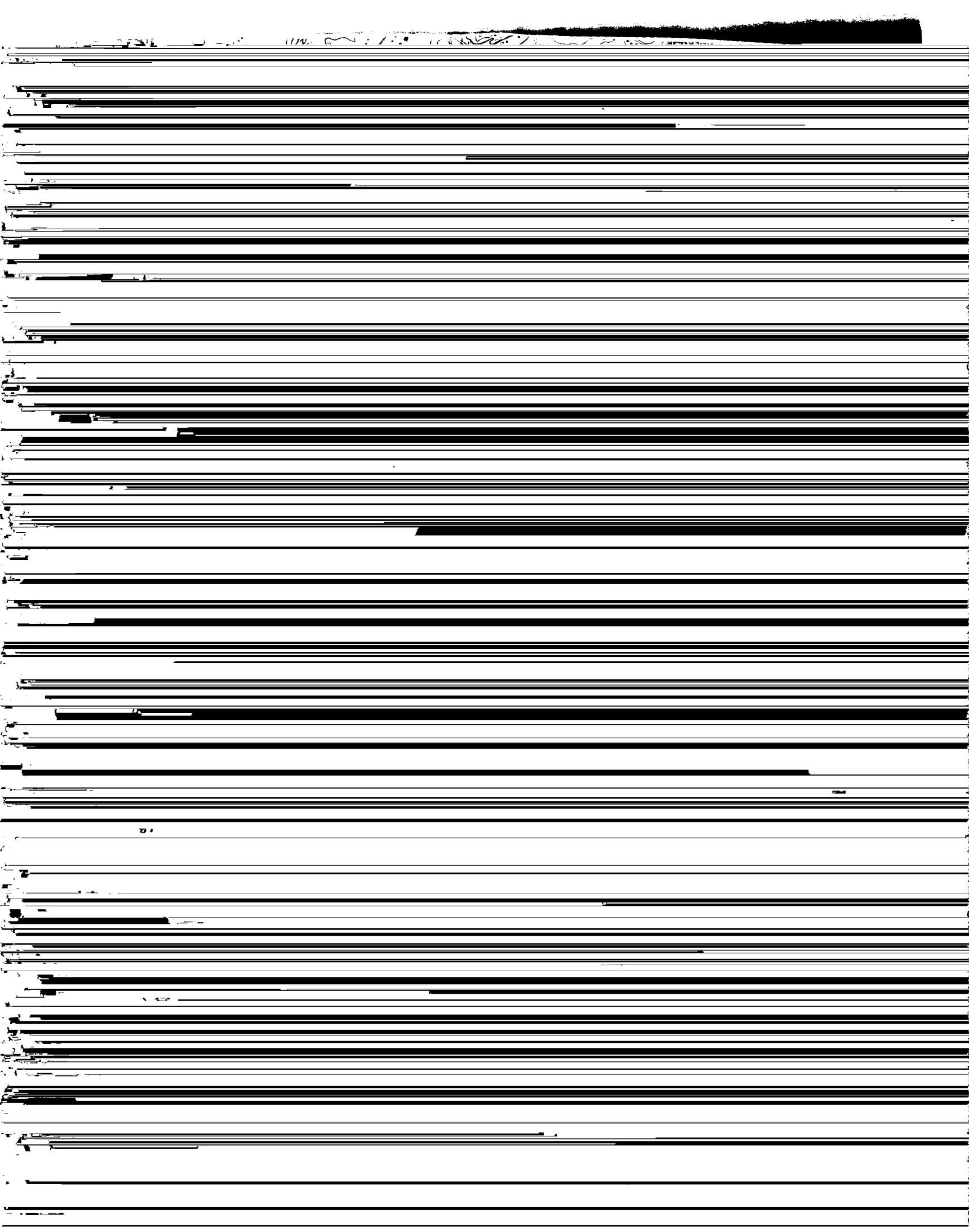
R.F. radiation level = 1.243 microwatt/sq. centimeter
That is 0.1243 percent of maximum of 1000 microwatts/sq. cm

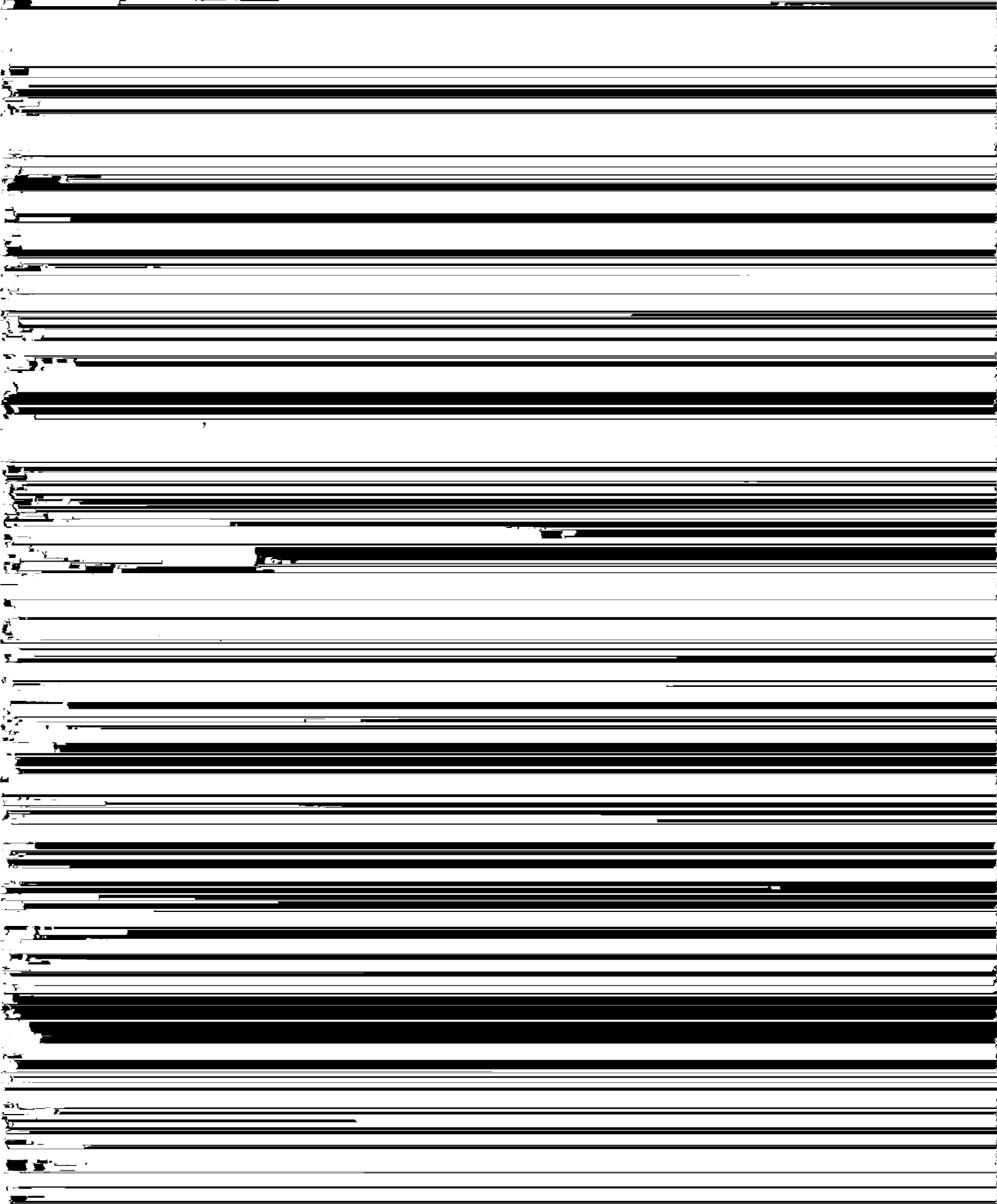
Thus, no hazard of radiation exist at ground level for the proposed FM operation. RF signs will be posted at the base of the tower. However, the

FIGURE 8 - CONTINUED - PAGE 2
POSITIVE ALTERNATIVE RADIO, INC. - ASHEBORO, NORTH CAROLINA
RF STATEMENT

applicant will install a fence at 3 meters from the base of the AM-FM tower because of WZOO's AM 1 KW operation.

The applicant and the licensee of Station WZOO will have an agreement in effect that will require both stations to reduce power or cease operation when construction or maintenance is performed within 3 meters of the tower or on the tower so that workers are not subject to radio frequency radiation that exceeds the ANSI limit of 1000 microwatts per square centimeter.





ound conductivity map, Figure M 3, adopted
Government Printing Office in April, 1960

